

0590

#278

0107

OIPE

#8

RAW SEQUENCE LISTING

DATE: 12/18/2001

PATENT APPLICATION: US/09/805,427A

TIME: 10:26:02

Input Set : A:\00032712.txt

Output Set: N:\CRF3\12182001\I805427A.raw

ENTERED

```

3 <110> APPLICANT: Statens Serum Institut
5 <120> TITLE OF INVENTION: Hybrids of M. tuberculosis Antigens
7 <130> FILE REFERENCE: 670001-2002.5
9 <140> CURRENT APPLICATION NUMBER: 09/805,427A
10 <141> CURRENT FILING DATE: 2001-03-13
12 <160> NUMBER OF SEQ ID NOS: 12
14 <170> SOFTWARE: PatentIn version 3.0
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 95
18 <212> TYPE: PRT
19 <213> ORGANISM: Mycobacterium tuberculosis
21 <400> SEQUENCE: 1
23 Met Thr Glu Gln Gln Trp Asn Phe Ala Gly Ile Glu Ala Ala Ala Ser
24 1 5 10 15
26 Ala Ile Gln Gly Asn Val Thr Ser Ile His Ser Leu Leu Asp Glu Gly
27 20 25 30
29 Lys Gln Ser Leu Thr Lys Leu Ala Ala Ala Trp Gly Gly Ser Gly Ser
30 35 40 45
32 Glu Ala Tyr Gln Gly Val Gln Gln Lys Trp Asp Ala Thr Ala Thr Glu
33 50 55 60
35 Leu Asn Asn Ala Leu Gln Asn Leu Ala Arg Thr Ile Ser Glu Ala Gly
36 65 70 75 80
38 Gln Ala Met Ala Ser Thr Glu Gly Asn Val Thr Gly Met Phe Ala
39 85 90 95
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 325
43 <212> TYPE: PRT
44 <213> ORGANISM: Mycobacterium tuberculosis
46 <220> FEATURE:
47 <221> NAME/KEY: SIGNAL
48 <222> LOCATION: (1)..(40)
50 <400> SEQUENCE: 2
52 Met Thr Asp Val Ser Arg Lys Ile Arg Ala Trp Gly Arg Arg Leu Met
53 1 5 10 15
55 Ile Gly Thr Ala Ala Ala Val Val Leu Pro Gly Leu Val Gly Leu Ala
56 20 25 30
58 Gly Gly Ala Ala Thr Ala Gly Ala Phe Ser Arg Pro Gly Leu Pro Val
59 35 40 45
61 Glu Tyr Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val
62 50 55 60
64 Gln Phe Gln Ser Gly Gly Asn Asn Ser Pro Ala Val Tyr Leu Leu Asp
65 65 70 75 80
67 Gly Leu Arg Ala Gln Asp Asp Tyr Asn Gly Trp Asp Ile Asn Thr Pro
68 85 90 95
70 Ala Phe Glu Trp Tyr Tyr Gln Ser Gly Leu Ser Ile Val Met Pro Val
71 100 105 110
73 Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Ser Pro Ala Cys Gly

```

RAW SEQUENCE LISTING

DATE: 12/18/2001

PATENT APPLICATION: US/09/805,427A

TIME: 10:26:02

Input Set : A:\00032712.txt

Output Set: N:\CRF3\12182001\I805427A.raw

```

74          115          120          125
76 Lys Ala Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu
77          130          135          140
79 Leu Pro Gln Trp Leu Ser Ala Asn Arg Ala Val Lys Pro Thr Gly Ser
80 145          150          155          160
82 Ala Ala Ile Gly Leu Ser Met Ala Gly Ser Ser Ala Met Ile Leu Ala
83          165          170          175
85 Ala Tyr His Pro Gln Gln Phe Ile Tyr Ala Gly Ser Leu Ser Ala Leu
86          180          185          190
88 Leu Asp Pro Ser Gln Gly Met Gly Pro Ser Leu Ile Gly Leu Ala Met
89          195          200          205
91 Gly Asp Ala Gly Gly Tyr Lys Ala Ala Asp Met Trp Gly Pro Ser Ser
92          210          215          220
94 Asp Pro Ala Trp Glu Arg Asn Asp Pro Thr Gln Ile Pro Lys Leu
95 225          230          235          240
97 Val Ala Asn Asn Thr Arg Leu Trp Val Tyr Cys Gly Asn Gly Thr Pro
98          245          250          255
100 Asn Glu Leu Gly Gly Ala Asn Ile Pro Ala Glu Phe Leu Glu Asn Phe
101          260          265          270
103 Val Arg Ser Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn Ala Ala Gly
104          275          280          285
106 Gly His Asn Ala Val Phe Asn Phe Pro Pro Asn Gly Thr His Ser Trp
107          290          295          300
109 Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys Gly Asp Leu Gln Ser
110 305          310          315          320
112 Ser Leu Gly Ala Gly
113          325
115 <210> SEQ ID NO: 3
116 <211> LENGTH: 404
117 <212> TYPE: PRT
118 <213> ORGANISM: Artificial Sequence
120 <220> FEATURE:
121 <223> OTHER INFORMATION: Recombinant Fusion protein Ag85B-ESAT-6
123 <400> SEQUENCE: 3
125 Met Ala Thr Val Asn Arg Ser Arg His His His His His His His
126 1          5          10          15
128 Ile Glu Gly Arg Ser Phe Ser Arg Pro Gly Leu Pro Val Glu Tyr Leu
129          20          25          30
131 Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val Gln Phe Gln
132          35          40          45
134 Ser Gly Gly Asn Asn Ser Pro Ala Val Tyr Leu Leu Asp Gly Leu Arg
135          50          55          60
137 Ala Gln Asp Asp Tyr Asn Gly Trp Asp Ile Asn Thr Pro Ala Phe Glu
138 65          70          75          80
140 Trp Tyr Tyr Gln Ser Gly Leu Ser Ile Val Met Pro Val Gly Gly Gln
141          85          90          95
143 Ser Ser Phe Tyr Ser Asp Trp Tyr Ser Pro Ala Cys Gly Lys Ala Gly
144          100          105          110
146 Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu Leu Pro Gln

```

RAW SEQUENCE LISTING

DATE: 12/18/2001

PATENT APPLICATION: US/09/805,427A

TIME: 10:26:02

Input Set : A:\00032712.txt

Output Set: N:\CRF3\12182001\I805427A.raw

```

147          115          120          125
149 Trp Leu Ser Ala Asn Arg Ala Val Lys Pro Thr Gly Ser Ala Ala Ile
150          130          135          140
152 Gly Leu Ser Met Ala Gly Ser Ser Ala Met Ile Leu Ala Ala Tyr His
153 145          150          155          160
155 Pro Gln Gln Phe Ile Tyr Ala Gly Ser Leu Ser Ala Leu Leu Asp Pro
156          165          170          175
158 Ser Gln Gly Met Gly Pro Ser Leu Ile Gly Leu Ala Met Gly Asp Ala
159          180          185          190
161 Gly Gly Tyr Lys Ala Ala Asp Met Trp Gly Pro Ser Ser Asp Pro Ala
162          195          200          205
164 Trp Glu Arg Asn Asp Pro Thr Gln Gln Ile Pro Lys Leu Val Ala Asn
165          210          215          220
167 Asn Thr Arg Leu Trp Val Tyr Cys Gly Asn Gly Thr Pro Asn Glu Leu
168 225          230          235          240
170 Gly Gly Ala Asn Ile Pro Ala Glu Phe Leu Glu Asn Phe Val Arg Ser
171          245          250          255
173 Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn Ala Ala Gly Gly His Asn
174          260          265          270
176 Ala Val Phe Asn Phe Pro Pro Asn Gly Thr His Ser Trp Glu Tyr Trp
177          275          280          285
179 Gly Ala Gln Leu Asn Ala Met Lys Gly Asp Leu Gln Ser Ser Leu Gly
180          290          295          300
182 Ala Gly Lys Leu Ala Met Thr Glu Gln Gln Trp Asn Phe Ala Gly Ile
183 305          310          315          320
185 Glu Ala Ala Ala Ser Ala Ile Gln Gly Asn Val Thr Ser Ile His Ser
186          325          330          335
188 Leu Leu Asp Glu Gly Lys Gln Ser Leu Thr Lys Leu Ala Ala Ala Trp
189          340          345          350
191 Gly Gly Ser Gly Ser Glu Ala Tyr Gln Gly Val Gln Gln Lys Trp Asp
192          355          360          365
194 Ala Thr Ala Thr Glu Leu Asn Ala Leu Gln Asn Leu Ala Arg Thr
195          370          375          380
197 Ile Ser Glu Ala Gly Gln Ala Met Ala Ser Thr Glu Gly Asn Val Thr
198 385          390          395          400
200 Gly Met Phe Ala
203 <210> SEQ ID NO: 4
204 <211> LENGTH: 403
205 <212> TYPE: PRT
206 <213> ORGANISM: Artificial Sequence
208 <220> FEATURE:
209 <223> OTHER INFORMATION: Recombinant Fusion protein ESAT-6-Ag85B
211 <400> SEQUENCE: 4
213 Met Ala Thr Val Asn Arg Ser Arg His His His His His His His
214 1          5          10          15
216 Ile Glu Gly Arg Ser Met Thr Glu Gln Gln Trp Asn Phe Ala Gly Ile
217          20          25          30
219 Glu Ala Ala Ala Ser Ala Ile Gln Gly Asn Val Thr Ser Ile His Ser
220          35          40          45

```

RAW SEQUENCE LISTING

DATE: 12/18/2001

PATENT APPLICATION: US/09/805,427A

TIME: 10:26:02

Input Set : A:\00032712.txt

Output Set: N:\CRF3\12182001\I805427A.raw

```

222 Leu Leu Asp Glu Gly Lys Gln Ser Leu Thr Lys Leu Ala Ala Ala Trp
223      50                      55                      60
225 Gly Gly Ser Gly Ser Glu Ala Tyr Gln Gly Val Gln Gln Lys Trp Asp
226 65                      70                      75                      80
228 Ala Thr Ala Thr Glu Leu Asn Asn Ala Leu Gln Asn Leu Ala Arg Thr
229                      85                      90                      95
231 Ile Ser Glu Ala Gly Gln Ala Met Ala Ser Thr Glu Gly Asn Val Thr
232                      100                      105                      110
234 Gly Met Phe Ala Lys Leu Phe Ser Arg Pro Gly Leu Pro Val Glu Tyr
235                      115                      120                      125
237 Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val Gln Phe
238 130                      135                      140
240 Gln Ser Gly Gly Asn Asn Ser Pro Ala Val Tyr Leu Leu Asp Gly Leu
241 145                      150                      155                      160
243 Arg Ala Gln Asp Asp Tyr Asn Gly Trp Asp Ile Asn Thr Pro Ala Phe
244                      165                      170                      175
246 Glu Trp Tyr Tyr Gln Ser Gly Leu Ser Ile Val Met Pro Val Gly Gly
247                      180                      185                      190
249 Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Ser Pro Ala Cys Gly Lys Ala
250                      195                      200                      205
252 Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu Leu Pro
253 210                      215                      220
255 Gln Trp Leu Ser Ala Asn Arg Ala Val Lys Pro Thr Gly Ser Ala Ala
256 225                      230                      235                      240
258 Ile Gly Leu Ser Met Ala Gly Ser Ser Ala Met Ile Leu Ala Ala Tyr
259                      245                      250                      255
261 His Pro Gln Gln Phe Ile Tyr Ala Gly Ser Leu Ser Ala Leu Leu Asp
262                      260                      265                      270
264 Pro Ser Gln Gly Met Gly Pro Ser Leu Ile Gly Leu Ala Met Gly Asp
265                      275                      280                      285
267 Ala Gly Gly Tyr Lys Ala Ala Asp Met Trp Gly Pro Ser Ser Asp Pro
268 290                      295                      300
270 Ala Trp Glu Arg Asn Asp Pro Thr Gln Gln Ile Pro Lys Leu Val Ala
271 305                      310                      315                      320
273 Asn Asn Thr Arg Leu Trp Val Tyr Cys Gly Asn Gly Thr Pro Asn Glu
274                      325                      330                      335
276 Leu Gly Gly Ala Asn Ile Pro Ala Glu Phe Leu Glu Asn Phe Val Arg
277                      340                      345                      350
279 Ser Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn Ala Ala Gly Gly His
280                      355                      360                      365
282 Asn Ala Val Phe Asn Phe Pro Pro Asn Gly Thr His Ser Trp Glu Tyr
283 370                      375                      380
285 Trp Gly Ala Gln Leu Asn Ala Met Lys Gly Asp Leu Gln Ser Ser Leu
286 385                      390                      395                      400
288 Gly Ala Gly
291 <210> SEQ ID NO: 5
292 <211> LENGTH: 36
293 <212> TYPE: DNA
294 <213> ORGANISM: Artificial Sequence

```

RAW SEQUENCE LISTING

DATE: 12/18/2001

PATENT APPLICATION: US/09/805,427A

TIME: 10:26:02

Input Set : A:\00032712.txt

Output Set: N:\CRF3\12182001\I805427A.raw

```

296 <220> FEATURE:
297 <223> OTHER INFORMATION: Primer OPBR-4
299 <400> SEQUENCE: 5
300 gccgccggca agcttgccat gacagagcag cagtgg          36
303 <210> SEQ ID NO: 6
304 <211> LENGTH: 26
305 <212> TYPE: DNA
306 <213> ORGANISM: Artificial Sequence
308 <220> FEATURE:
309 <223> OTHER INFORMATION: Primer OPBR-28
311 <400> SEQUENCE: 6
312 cgaactcgcc ggatcccgtg ttctgc          26
315 <210> SEQ ID NO: 7
316 <211> LENGTH: 32
317 <212> TYPE: DNA
318 <213> ORGANISM: Artificial Sequence
320 <220> FEATURE:
321 <223> OTHER INFORMATION: Primer OPBR-48
323 <400> SEQUENCE: 7
324 ggcaaccgcg agatctttct cccggccggg gc          32
327 <210> SEQ ID NO: 8
328 <211> LENGTH: 27
329 <212> TYPE: DNA
330 <213> ORGANISM: Artificial Sequence
332 <220> FEATURE:
333 <223> OTHER INFORMATION: Primer OPBR-3
335 <400> SEQUENCE: 8
336 ggcaagcttg ccggcgccta acgaact          27
339 <210> SEQ ID NO: 9
340 <211> LENGTH: 30
341 <212> TYPE: DNA
342 <213> ORGANISM: Artificial Sequence
344 <220> FEATURE:
345 <223> OTHER INFORMATION: Primer OPBR-75
347 <400> SEQUENCE: 9
348 ggacccagat ctatgacaga gcagcagtgg          30
351 <210> SEQ ID NO: 10
352 <211> LENGTH: 47
353 <212> TYPE: DNA
354 <213> ORGANISM: Artificial Sequence
356 <220> FEATURE:
357 <223> OTHER INFORMATION: Primer OPBR-76
359 <400> SEQUENCE: 10
360 ccggcagccc cggccgggag aaaagctttg cgaacatccc agtgacg          47
363 <210> SEQ ID NO: 11
364 <211> LENGTH: 44
365 <212> TYPE: DNA
366 <213> ORGANISM: Artificial Sequence
368 <220> FEATURE:

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/805,427A

DATE: 12/18/2001

TIME: 10:26:03

Input Set : A:\00032712.txt

Output Set: N:\CRF3\12182001\I805427A.raw